

RotoTrends

*Exploring the potentials of
rotational moulding in design*

Issue 10



ARMO
ASSOCIATION OF ROTATIONAL MOULDING ORGANISATIONS

Introduction

The evolution that has distinguished rotational moulding in recent decades is intimately related to the development of awareness of rotomoulding in the design world.

In other words, as the potential of rotomoulding becomes “common knowledge” amongst designers and producers the sophistication of their projects using our technology for industrial applications grows. RotoTrends explores the different potentials of rotational moulding showing case-histories where the roto technology is able to open new markets, developing innovative products and working successfully in new niches.

The projects developed in partnership with international design institutes, and the selected industrial products produced a faithful portrait of an industry constantly hungry for new ideas, eager to experiment with new shapes and new materials, sensitive to the international richness of globalization.

Rotomoulding is strategically placed as one of the key technologies for rethinking the industry according to today’s needs for technology and performance.

Trending Factors in Agricultural Tractors

- *Digitalization and Connectivity:* The integration of digital technologies and connectivity solutions into agricultural tractors enables real-time monitoring, remote diagnostics, and predictive maintenance capabilities, enhancing operational efficiency, uptime, and asset management for farmers and equipment dealers.
- *Customization and Modular Design:* The trend towards customization and modular design in agricultural tractors allows farmers to configure tractors according to their specific needs, preferences, and cropping systems, offering flexibility, scalability, and cost-effectiveness in tractor selection, adaptation, and utilization.
- *Smart Farming Solutions:* The integration of smart farming solutions, such as precision guidance systems, automated steering, and implement control systems, into agricultural tractors enhances accuracy, productivity, and yield potential, enabling farmers to optimize inputs, reduce overlaps, and minimize environmental impact.

Driving Factors of the Tractors Market

- *Mechanization of Farming:* Tractors automate labor-intensive tasks, improving efficiency and productivity on farms of all sizes.
- *Increasing Farm Size:* Large-scale farming operations demand powerful tractors capable of handling heavy-duty tasks and equipment.
- *Technological Advancements:* Innovations in tractor design, engine efficiency, and precision farming technologies enhance performance and functionality.
- *Government Subsidies and Incentives:* Financial support and tax incentives for farm mechanization drive tractor sales and adoption.
- *Global Food Demand:* Rising population and food consumption necessitate higher agricultural output, spurring demand for tractors.
- *Customization and Versatility:* Tractors offer flexibility for diverse farming applications, from plowing fields to towing implements.



7250 TTV Agrottron

An innovative tractor with high technical aspirations.

design Giugiaro Design, Italy

production Same Deutz-Fahr, Italy

The 7 TTV tractor series is an example of the 'downsizing' strategy that is common to recent Deutz-Fahr models. Designed for very high production efficiency, the tractors are equipped with powerful, fuel-efficient engines with minimal pollutant emissions. Also noteworthy is the standard equipment package and the focus on design and functionality. The bonnet with sleek lines and mudguards enriched by LED light clusters integrate with the new Maxi Vision cab, equipped with a large monolithic windscreen with high visibility. Inside, the controls are concentrated in the armrest with ergonomic joystick, while a colour display - already available in the basic version - allows all tractor functions to be controlled. The cab is moulded using rotational technology and specifically designed to ensure maximum visibility and comfort for the operator. The driving comfort is excellent: in many situations, the operator can forget about clutch, gearbox, accelerator and brakes, relying totally on the joystick. The vehicle has received numerous international awards for its innovative design such as the Compasso D'Oro award and the Red Dot Design Award.

www.sdfgroup.com





> *The integration of moulded parts with a double finish, green and dark grey, guarantees a special visibility of the vehicle.*



> *The front of the tractor features a moulded bonnet that integrates the headlights and provides stress resistance.*



> *The revamped MaxiVision 2 Cab sets a new benchmark in its class, thanks to air suspension, high-quality materials, great roominess and careful control design.*

Sofa Trends to know in 2024

New materials and industrial technologies

The design and production of sofas is undergoing a progressive evolution with the aim of introducing new processing systems and new materials for the industrial production of upholstered products. Sofas have long been semi-crafted products, made from an internal structure of wood or metal. Supporting structures moulded with different polymers can replace traditional materials, bringing greater precision and industrialisation to production.

Sustainable Materials

The aim is to create upholstered products that are lighter and perform better thanks to the use of polymeric materials that guarantee resistance to stress and at the same time allow optimal integration with the upholstery and covering.

Sofa Market Outlook

A sofa is a piece of furniture designed for seating multiple people comfortably. It typically has a padded seat, back, and armrests, often with additional features such as adjustable headrests or reclining mechanisms.

The increasing demand for aesthetically pleasing and comfortable furniture, coupled with growing urbanization and disposable income, are driving the market growth.

As consumers are increasingly looking for furniture that combines style with functionality, manufacturers are introducing innovative designs and materials to cater to these changing preferences.

Some of the latest market trends in the sofa industry include the rising popularity of modular and customizable sofas, as well as sustainable and eco-friendly materials in sofa production. Online retail channels are also experiencing rapid growth, offering consumers a wide range of options and convenience in purchasing sofas.



Costume

A new way to produce sofa through rotational moulding

design Stefan Dietz - Germany
production Magis - Italy

The basis of the construction system for the Costume modular sofa is a hollow rotomoulded body made from recycled and recyclable polyethylene, over which the various layers of upholstery are arranged. Held together by the cover alone, no adhesives need to be used. The use of materials is therefore minimised and the sofa is easy to dismantle, which simplifies cleaning, repair and recycling. Thanks to the modular structure, the furniture can be rearranged as required and extended to form a seating landscape, thus ensuring long-lasting use. The Costume sofa designed by Stefan Diez for Magis was honoured with the prestigious ADI Compasso d'Oro 2024 for its pioneering design. An innovative production process applied to a mature market sector has generated new areas of use for the public, who are increasingly responsible and aware in terms of sustainability issues over time.

www.magisdesign.com





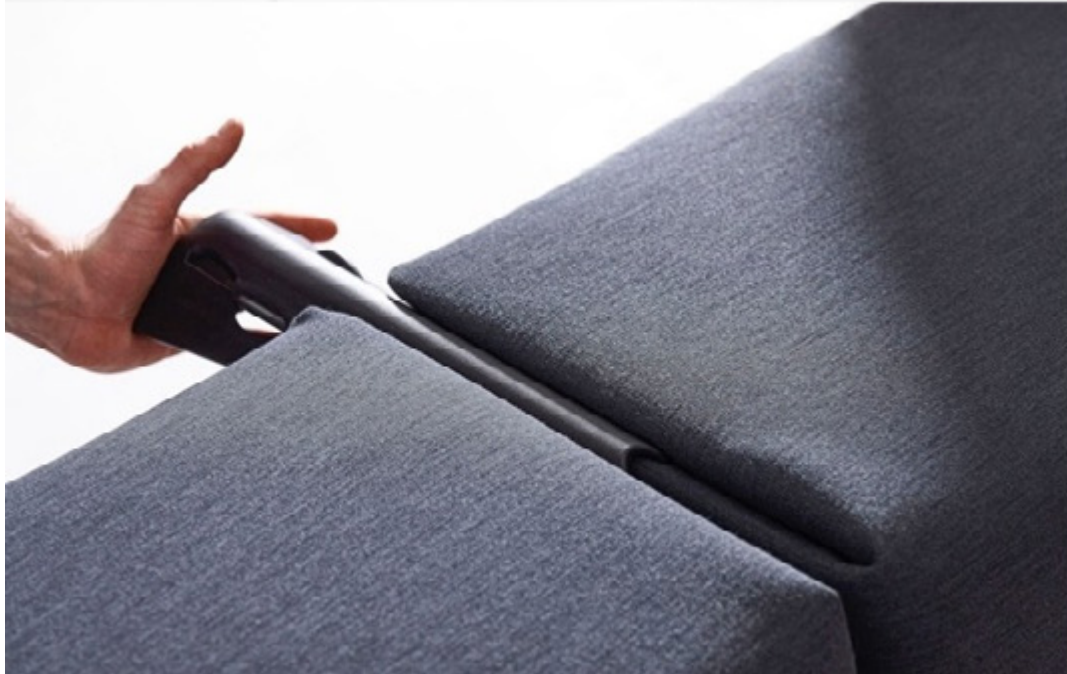
> *Costume is the result of many years of research in which Magis experimented with new materials and construction methods that led to a complete rethinking of the sofa's structure.*



> *At the heart of Costume is a 4 mm thin body made from recycled and recyclable polyethylene, produced using rotational-moulding technology from furniture and car industry waste.*



> *An insert made of pocket spring cores provides the cushioning for the seat and backrest. On top of this is a thin layer of polyurethane foam.*



> *The materials are not permanently attached to each other, the whole is held together by a cover made of fabric that can be fastened on using tension belts and easily removed at any time.*



> *Not only does this system use much less foam in manufacturing than conventional sofas but most of the materials used can also easily be recycled.*



> *This is fully in keeping with the circular economy and allows Costume to live up to Magis' claim to develop products that use materials in a responsible way.*

Key Trends for Wrapping Machine

The integration of automation and smart technologies is revolutionizing the wrapping machine market. Manufacturers are increasingly adopting automated systems to enhance efficiency, reduce labor costs, and minimize human error in packaging processes.

Advanced technologies like the Internet of Things (IoT), artificial intelligence (AI), and machine learning are being incorporated into wrapping machines, allowing for real-time monitoring, predictive maintenance, and seamless operation. These smart machines can adapt to different packaging requirements and optimize performance, leading to increased productivity and cost savings.

With growing environmental awareness and stringent regulations, there is also a significant shift towards sustainable and eco-friendly packaging solutions. Companies are developing wrapping machines that are compatible with biodegradable, recyclable, and compostable materials.

Wrapping Machine Market Outlook

The global wrapping machine market is poised for robust growth, with an anticipated CAGR exceeding 8% from 2024 to 2030. This growth is primarily driven by the escalating demand for packaging solutions in the food and beverage sector worldwide, as consumers and businesses alike seek efficient and reliable packaging options.

Additionally, the surge in the transportation of consumer goods and industrial products to diverse locations further propels the need for advanced wrapping machines.

Manufacturers are increasingly focusing on delivering packaging solutions that ensure safety, stability, and high quality, which is expected to accelerate market expansion during the forecast period.



Self Propelled Robot S6 for Stretch Wrapping

production RoboPac, San Marino
moulds XMtech, Italy

Robot S6 is a self-propelled wrapping machine for palletised loads of any shape, size and weight with stretch film. Equipped with a Touch Screen control panel that allows simple and functional adjustment of wrapping parameters and memorisation of wrapping programmes on the main panel. Designed and built according to criteria of maximum reliability, robustness and safety, it proves to be the undisputed market leader. The main structure is moulded using rotational technology.

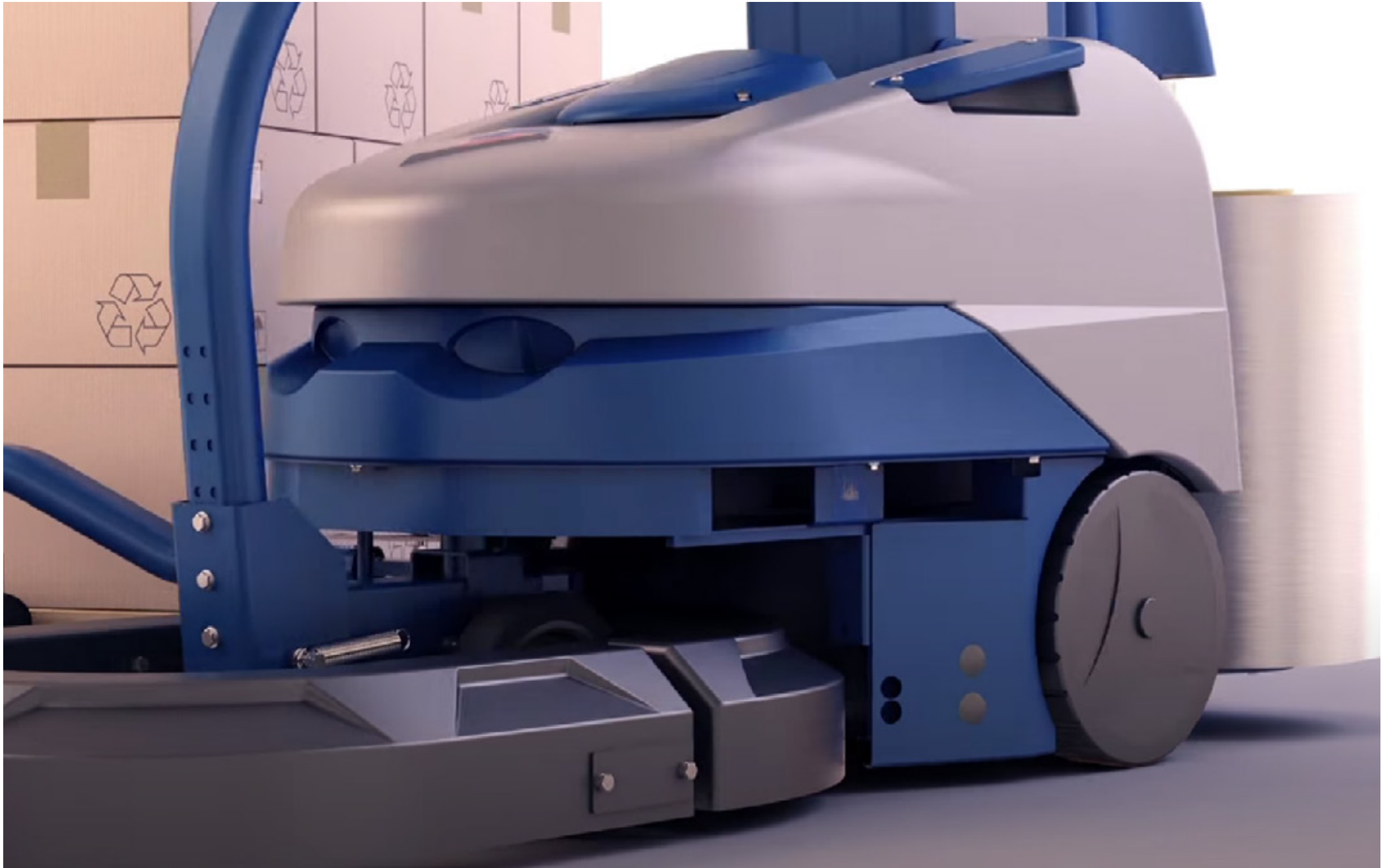
The panel features Multilevel Control, a solution that breaks down the height of the product into 7 levels, with continuous differentiated adjustment of the rotation pull, film overlap and reinforcement turns, allowing the wrapping cycle to be customised in relation to the product with a reduction in the amount of film used, to the benefit of productivity.

www.xmtech.com





> *The wrapping cycle can be customised in relation to the product with a reduction in the amount of film used, to the benefit of productivity.*



> *The S6 Robot has the capacity to pack any type of product, and thanks to the inhibition of the electronic corner counter system, it's possible to wrap cylindrical-shaped products.*



> *The S6 Robot, with its high packing autonomy and extreme working flexibility, identifies itself as the ideal partner for all industrial realities that require maximum flexibility.*



> *The wide range of customisation options make it a very versatile pallet wrapping system.*

Top Trends in Cleaning for 2024

Green Cleaning Goes Mainstream: A Shift Towards Sustainable Practices

With a growing emphasis on environmental consciousness, the demand for eco-friendly cleaning products and practices is skyrocketing.

Microbiome-Friendly Cleaning: Preserving the Balance of Indoor Microorganisms

A shift towards microbiome-friendly cleaning involves using products that target harmful microbes while preserving the beneficial bacteria in our indoor environments.

Customised Cleaning Plans

Cleaning companies are moving towards offering more tailored services to meet the unique needs of clients. Expect to see the rise of customised cleaning plans, where clients can choose specific services based on their preferences, schedules, and the nature of their living or working spaces.

Key Points in Products for Cleaning Public Spaces

Liquid and solid waste collection and absorption systems are evolving rapidly at the same time as the emergence of new technological solutions to optimize the cleaning of spaces.

The main characteristics that these products must have are the following:

Ergonomics, i.e. the ability to offer easy maneuverability, a comfortable and effective grip.

Multifunctionality, i.e. the ability to respond to multiple functional needs

Robustness as resistance to impacts and stresses to which it is subjected

Maintenance, i.e. ease and practicality in cleaning after use



Toucan Pack Absorbent Recycling Pack

production SRI - France

design Anvi Plasturgie - France

The Toucan Pack is an all-in-one mobile station, which stores, distributes and recycles its Fibercan+®. It's a new cleaning concept which advantageously replaces traditional absorbents (such as sawdust and granules) which are used to deal with spillages on a daily basis. The Toucan Pack is a true innovative product, very efficient and which avoids the common absorbent piles, manipulations and risks related to slippery floors.

The Toucan pack is an All-in-One rotomoulded station which stores, distributes and recycles its natural absorbent: Fibercan+. This product has been developed by and for the end-users to be completely user-friendly: tools easily available, a clever sieving system and an eased maintenance. It is the necessary and economical tool for all the automotive professionals who want to work in clean, safe and organised workshops.

www.sri-france.com





> *By pushing the handle, the operator is able to separate the dirty absorbent from the reusable one which goes back into the collection tray available for the next spillages.*



> *Mobile and ergonomic, the Toucan Pack stores and distributes its Fibercan +[®] absorbent to deal quickly with spillages.*



> *The structure is rotationally moulded and integrates a series of accessory elements such as rear wheels.*

Cutting-Edge Design and Customization

In the current context of architecture and design, the choice of *outdoor showers* is becoming an essential style element, just as important as the decisions that guide the design of indoor spaces. This approach reflects the growing demand for solutions that both visually and functionally enhance open spaces.

Modern outdoor showers are becoming a new trend of luxury properties and secondary homes. Mind you, these are not your parent's outdoor showers. Today, outdoor showers are created from *different materials, revolutionary technology, and aesthetics designed to impress.*

Outdoor showers are evolving into increasingly multi-functional products that integrate various elements such as counter tops, storage for accessories, integrated lighting and ergonomic seating.

Types of Outdoor Showers

Shower Panels. Shower panels are a versatile solution, consisting of a long panel fixed to the wall using existing piping. Available in various configurations, including models with timed, thermostatic, or manual taps, we offer a range of options for every need. The advantages include ease of installation and availability in different sizes and configurations to suit any space.

Shower Columns. Shower columns are an excellent solution for outdoor spaces that require a refined and functional design. Incorporating a rain shower head, taps, and sometimes a foot wash, they offer a clean and tidy appearance.

Integrated Taps and Shower Heads: These systems are suitable for outdoor bathrooms, offering flexibility in design but requiring more extensive installation efforts.



Istà Shower

Free standing outdoor shower

design JoeVelluto, Italy

production Lineabeta, Italy

Designed by the JoeVelluto studio to refresh during hot summer days, Istà is an outdoor furniture item ideal for the summer outdoors: produced by Lineabeta, it is an outdoor shower with an original design, made with a painted metal pole (available in different colours) and a rotomoulded base integrated with a supporting surface that can also be used as a seat.

Designed to be versatile and functional for various types of spaces and needs, it can be conveniently connected to a garden hose for freer and more mobile use, or directly to a traditional plumbing system.

www.samo.it

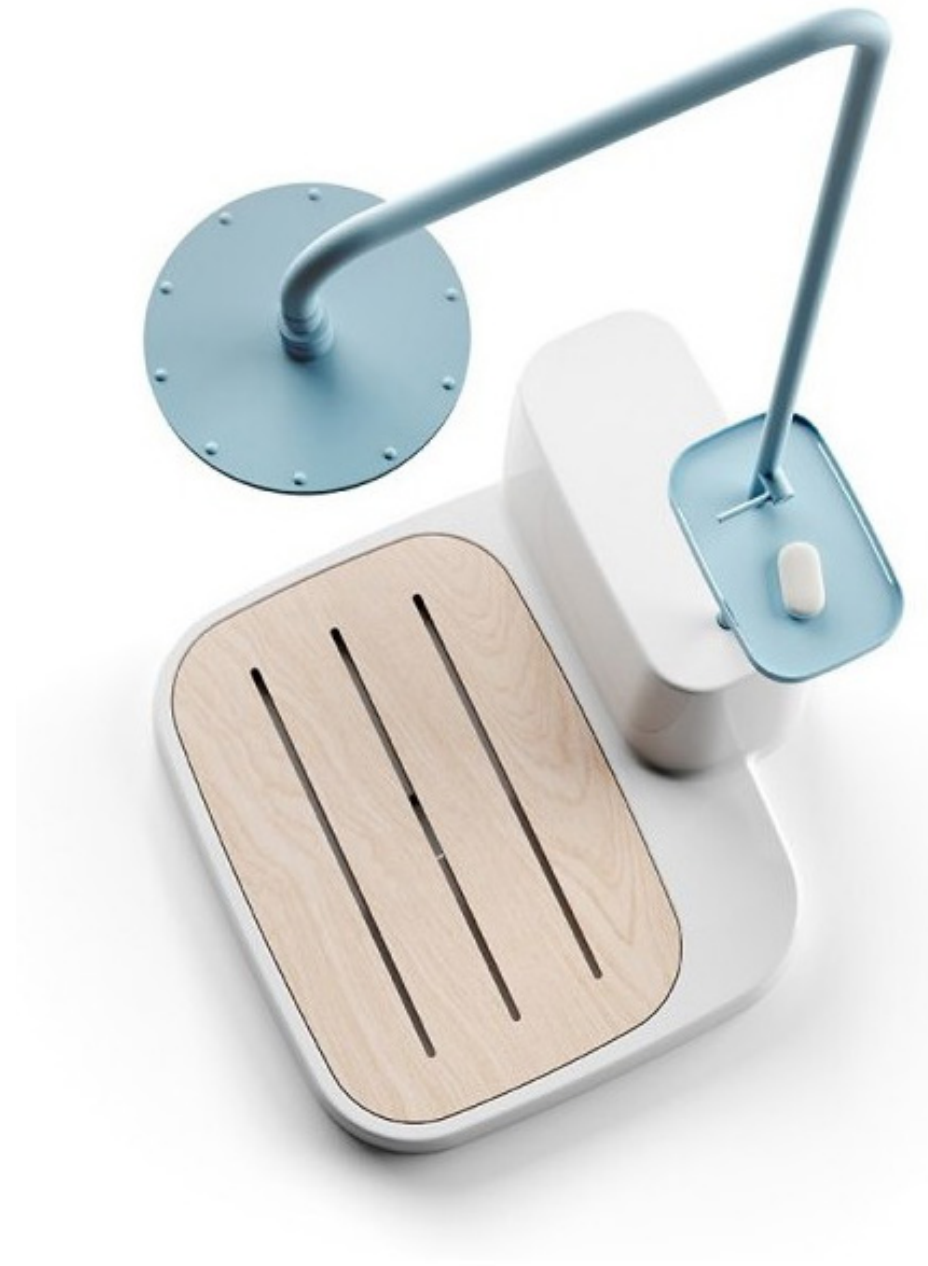
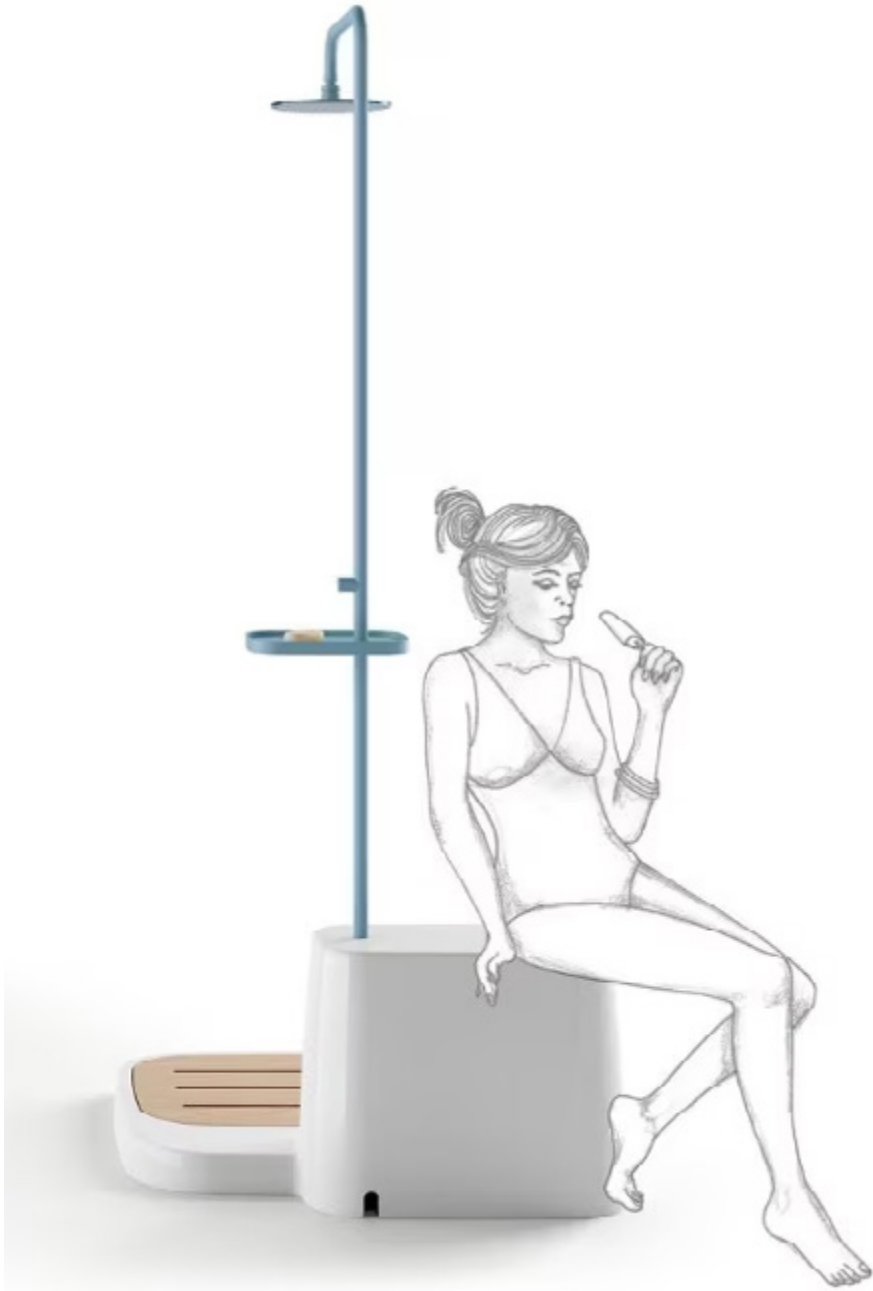




> *Mobile outdoor shower with polyethylene base, bracket and showerhead in powder-coated stainless steel.*



> *The rotomoulded base can be used as a support point or seat.*



> *The shower is connected to a standard water hose while the base is completed with a wooden insert.*

Pools as Places for Socialising

Leisure activities are also a hub for socialising. It is important to encourage young people to meet at the swimming centres. And it is important to involve users in the design process.

The design of the pool increasingly becomes an overall challenge that also involves the accessory elements that are connected to the main pool.

The technical room dedicated to motors becomes an integral part of the overall aesthetics of the pool and has the potential to take on additional functionality.

At the same time, the shower area is transformed into a wellness and body care space with its own distinct identity.

Design Factors for Swimming Pool

Wellness is gaining ground

The combination of sport and relaxation has become more popular. It is therefore a good idea to complement the classic competition and exercise pools with wellness facilities such as spas, saunas, Turkish baths, treatment facilities and lounge zones.

Fun for children and families

Families with children are an important target group for swimming centres. It is therefore important to have facilities that support play and give children a good introduction to the water.

Designing for inclusivity

Accessibility is not only about focusing on users with physical disabilities. Changes in demographics and ethnic diversity also place special demands on swimming centres. Everything from stairs and changing rooms to signs and lighting can have an impact. It is important to involve all key stakeholders early in the design phase.



Jouer

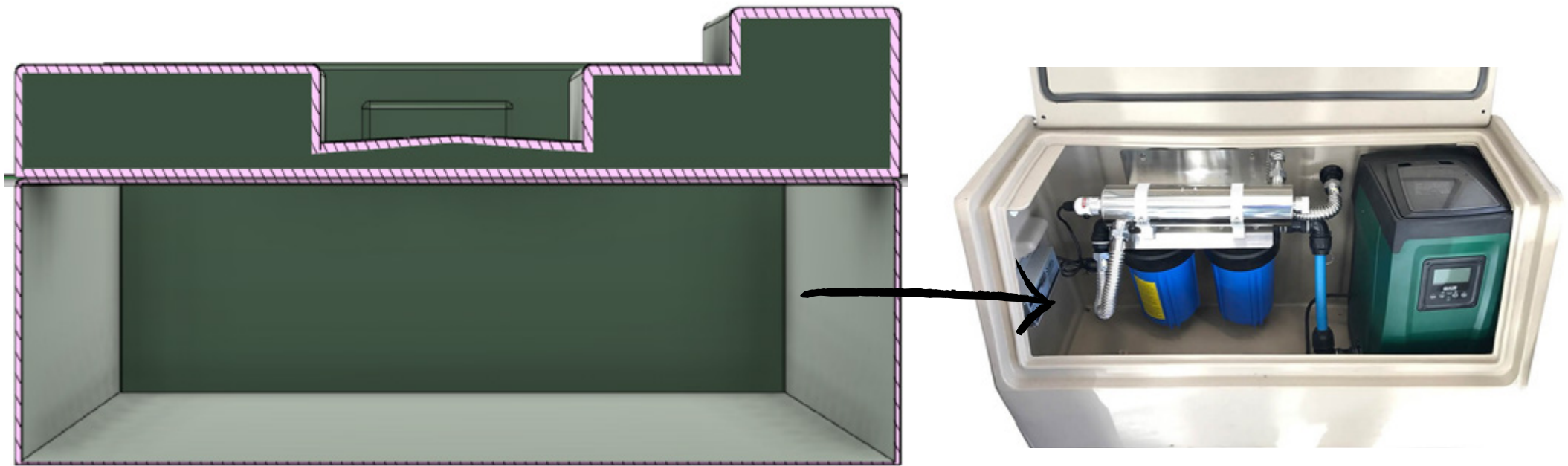
Swimming pool room enclosure

design Begum Onder, Turkey
Domus Academy, Italy

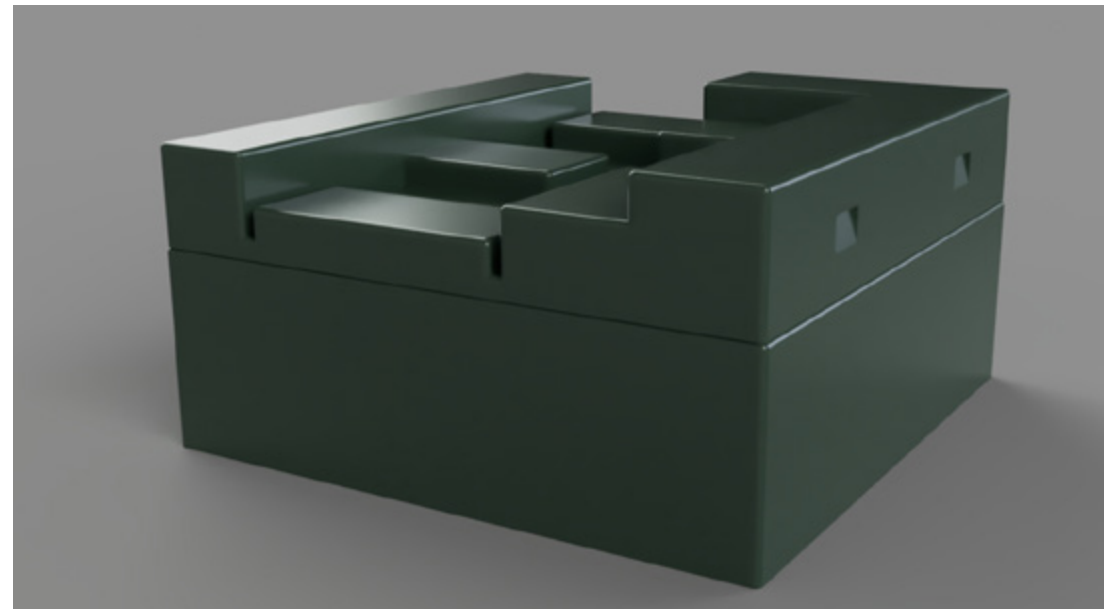
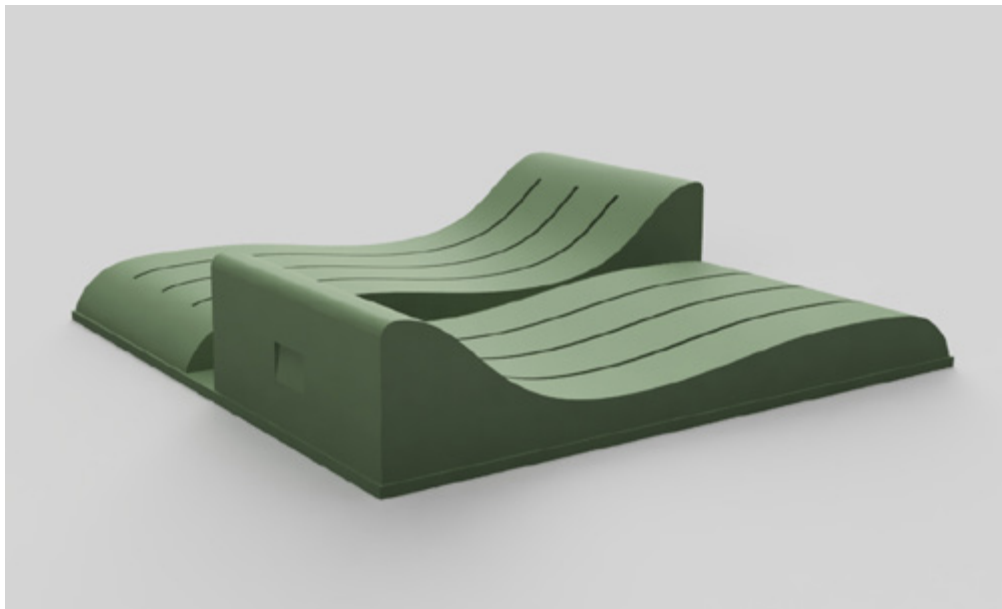
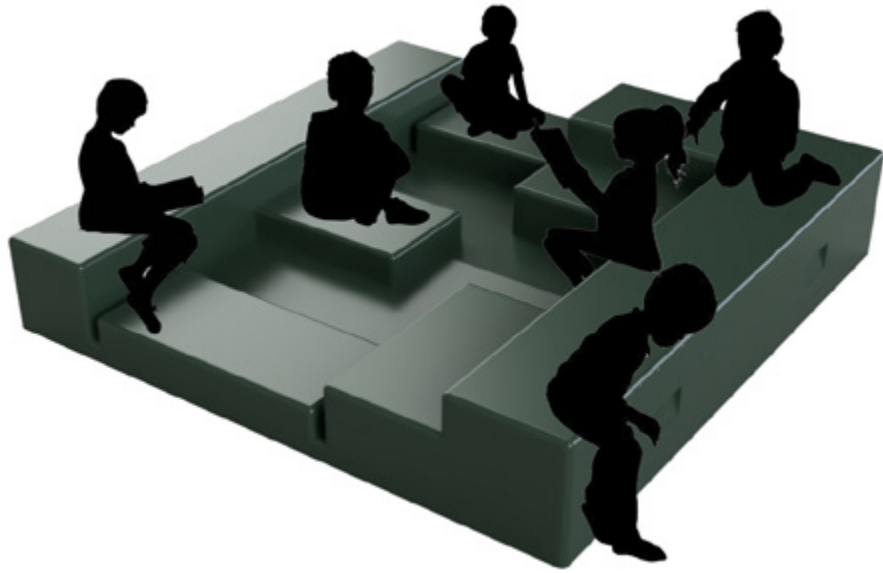
The idea behind this project is to give new life to the roofing for the technical rooms located near the swimming pools. These rooms contain the motor for pumping water and are completed by a flat top cover made of plastic material. The project, exploiting the potential of rotational moulding, proposes a new way of interpreting the cover base through two different and alternative hypotheses. In the first case, the base is transformed into a play area for children created with a series of volumes placed at different heights that allow children to play in various ways. In the second case, the lid is split into two sunbeds that can both be positioned in the same direction or alternated.

www.domusacademy.com





> *The upper part of the technical compartment of the pool is transformed into a play platform for children.*



Key Factors between Design and Technology

Sports car racing has come a long way and is poised to break new ground in the coming years. With the introduction of new technologies and practices, the future of racing seems promising and exciting. It's an environment that will require flexibility and innovation but will also provide great rewards for those who rise to the challenge.

As advancements in technology continue, racers and teams must think ahead to remain highly competitive. Taking advantage of such trends will allow them to do so and provide fans with memorable victories and competitive races.

Weight is one of the most critical factors in sports car performance. Manufacturers are now turning to lightweight materials such as carbon fiber, rotomoulded parts and aluminum to reduce the weight of their vehicles and maximize performance. These elements are significantly lighter, more robust, and more durable than traditional steel. Manufacturers use lightweight materials to ensure that their cars achieve higher speeds while still handling corners and providing racers with a comfortable ride.

Trends Shaping the Future of Sports Cars

Sports car racing has been one of the most popular forms of motorsports for years, with the rising popularity of specialized and high-performance vehicles. It has evolved into an attractive, exciting, and competitive event featuring powerful cars capable of reaching impressive speeds and cornering with agility.

While modern sports vehicles are built with power and performance in mind, they also feature a range of advanced technologies that increase safety, improve aerodynamics, reduce weight, and optimize fuel efficiency.

Improved Aerodynamics & Advanced Technologies
Aerodynamics is essential because it affects the vehicle's speed, handling, and overall performance. Manufacturers are now using advanced computer-aided design (CAD) software to optimize aerodynamics and ensure that their cars are as efficient as possible regarding airflow. It includes using features such as spoiler blades, front splitters, diffusers, and suspensions to create downforce and improve handling at higher speeds.



Nomad 2

Exploring, touring or drifting

production Ariel Motor, Great Britain

Ariel Motor Company has once again pushed the boundaries of traditional sports car engineering with the launch of the all-new Ariel Nomad 2. The second-generation model, aptly named 'Nomad 2,' maintains the company's philosophy of blending form with function while offering a serious dose of fun. As the rugged sibling to the Atom, the Nomad 2 retains its outstanding off-road expertise with features like exposed outboard suspension, long-travel dampers, and damage-resistant body panels. The raised air intake and easily washable interior are practical touches that highlight its go-anywhere DNA.

The Nomad 2 is a complete redesign from the ground up, incorporating only three parts from its predecessor. This new iteration exemplifies Ariel's dedication to evolution and customer feedback, showcasing an all-new chassis, suspension, steering, and brakes. The design improvements and significant aerodynamic refinements reflect Ariel's R&D efforts. The front components are rotomoulded and built into the aluminium frame. The Nomad 2 is built for those who seek to explore its full potential, with options like fully selectable driver aids, a three-stage engine map controller, adjustable launch and traction control, and an ABS system tailored for both on- and off-road driving.

www.arielmotor.co.uk

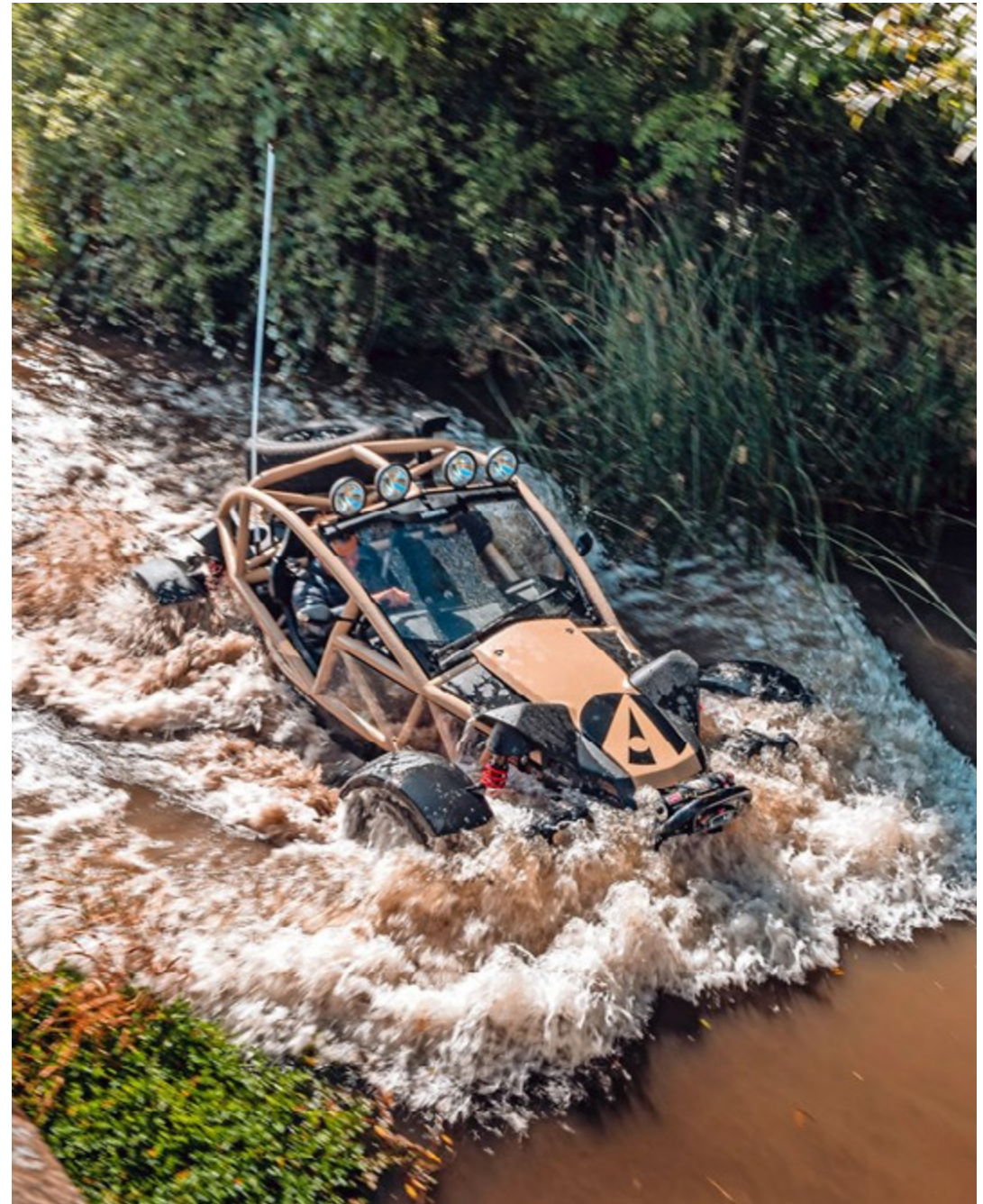




> *At the heart of the Nomad 2 is a turbocharged 2.3L Ford engine, delivering up to 305 brake horsepower and an impressive 382 lb-ft of torque.*



> *The powertrain, paired with a six-speed manual gearbox or an optional paddle-shift sequential transmission, guarantees potent performance whether you're on the tarmac or rough terrain.*



> *Ariel's extensive testing regime, from racetracks to rally stages and extreme weather conditions, ensures that the Nomad 2 can handle whatever you throw at it.*

SUP Technology Key Elements

The technique in stand up paddling is simple, because you stand with your feet hip-width apart and exactly parallel to the grip on the board. The knees are slightly bent to compensate for smaller waves. The upper arm on the handle of the paddle, also called the pressure arm, is vertically above the paddle blade and performs all paddling movements. The so-called pull arm grips the spar about shoulder width below the handle and is the pivot point for the paddle movements. It should almost always remain stretched.

*As for the technique in paddling, there are three phases here, namely the **piercing phase**, the **pulling phase** and finally the **retrieval phase**. In the first stage, the paddle should be dipped into the water as far forward as possible, and once the paddle is completely submerged, the pull phase begins. It is helpful to think of pulling the SUP board towards the paddle and not the other way around. The last phase, the retrieval phase, performs the pressure arm in the form of a lateral movement, which moves the paddle out of the water and after a 90-degree rotation of the paddle blade is returned flat over the surface of the water.*

Key Trends for Stand-up Paddling (SUP)

Stand-up paddlers have become an integral part of lakes, rivers and coastal waters. In the USA, 4.13 million people regularly paddled across the water in 2024, a record number.

Stand Up Paddling is a full body workout of a special kind and especially for skiers, but also snowboarders and other athletes a popular method of cross training. The summer trend offers quasi training from the neck to the little toe, because no muscle in the body remains unmoved or untrained.

SUP is suitable for athletes of any age, fitness condition, weight and size. The whole body is trained optimally and easy on the joints. With the constant balancing the deep muscles are addressed, which is very useful especially after herniated discs or other back problems.

At the same time, however, no muscle is overtrained, rather it comes to the fact that the muscles in the Back, in the trunk, the abdominal muscles and the muscles on the arms and legs balance and balance prevails.



Challenger 10"-12" **Engineered for performance.** **Designed for convenience.**

production Innovo, USA
moulds XMTech, Italy

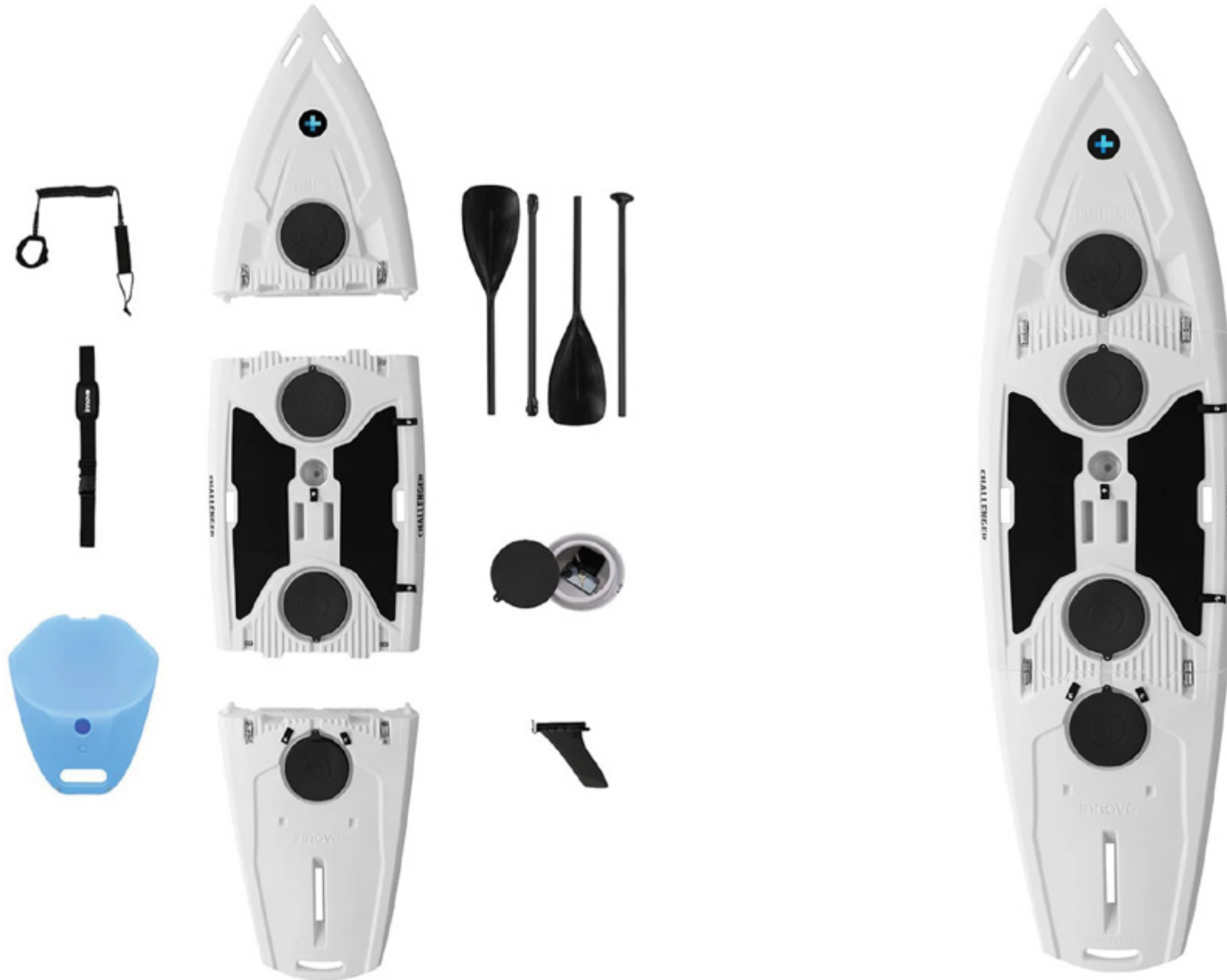
The Easy Eddy Paddle Board is an innovative modular 3-piece design that offers endless possibilities for adventure. Whether you're exploring serene lakes or tackling challenging waves, this paddle board combines performance, portability, stability, and sustainability. Assemble or take it apart in less than 60 seconds, making it super easy to transport and store when not in use.

Be paddle-ready in minutes—no tools or pumps required. Just lock and latch the three-piece board, and you're ready to go. With a detachable top-mount fin, you never need to worry when dragging your board to and from the water. Simply snap the fin in place once your board is afloat.

Keep your personal items with you while you're on the water. Throw smaller belongings in the water-resistant pouch and store them safely inside one of three storage cavities. Swap out your belongings for your board's accessories when the adventure ends.

www.innovo.plus





> *Quick Assembly and Deconstruction: Spend less time setting up and more time enjoying the water. Snap the board together effortlessly.*



> Innovative Detachable Top-Mount Fin: This fin enhances stability and tracking. Attach it when you're ready to paddle, and remove it for easy storage.



> *Easy Transport: The modular design makes it a breeze to transport. No need for heavy lifting—just assemble the pieces and go!*



> *Perfect for All Levels: Whether you're a beginner or an experienced paddler, this versatile watercraft suits everyone.*



> *Moulds for rotational moulding of the three structure components.*

Riding Lawn Outlook Market

The riding lawn tractor market has experienced steady growth over the past few years, driven primarily by increasing demand for convenient lawn maintenance solutions among homeowners and commercial landscapers alike.

Riding lawn tractors offer several advantages over traditional push mowers, including reduced physical strain on the operator and faster mowing times, making them a popular choice for those with large lawns or professional landscaping businesses.

Additionally, advancements in technology have led to the development of more efficient and user-friendly models, further fueling the market's expansion.

One key trend shaping the riding lawn tractor market is the growing emphasis on eco-friendly and sustainable options. With increasing awareness of environmental issues, consumers are seeking out lawn tractors that are powered by electric or hybrid engines, rather than traditional gas-powered models.

Design and Production Key Elements

1. Rise of robotic lawnmowers

The rise in demand for easy, hands-free lawn care is reflected in the popularity of robotic lawnmowers. These state-of-the-art mowers use mapping and sophisticated sensors to allow them to roam your lawn on their own.

2. Growing demand for cordless lawnmowers

The emergence of cordless lawnmowers, which provide a hassle-free option powered by rechargeable batteries, is a notable development in the industry. The hassle of managing wires or gasoline cans is eliminated with cordless designs, giving customers a more efficient and convenient way to take care of their lawns.

3. Increased focus on design and aesthetics

Lawnmowers have evolved from utilitarian devices to stylish objects as a result of manufacturers emphasizing aesthetic design. Customers now have access to a wide range of fashionable and eye-catching lawnmower alternatives thanks to this progression. The modern market is characterized by a blend of aesthetics and utility, as producers understand how critical it is to unite innovation in design with utility.



Park 900 WX Petrol-powered front lawn tractor

design Delineo, Italy
production Stiga, Italy

The Park 900 WX front lawn tractor offers maximum power with minimum effort, thanks to its 635 cc twin-cylinder STIGA ST 650 engine for professional performance, its Tuff Torq all-wheel-drive hydraulic transmission and its 50:50 articulated steering which is easy and light to manoeuvre. The height-adjustable front deck offers a wide choice of cutting widths, from 95 cm to 125 cm. The result? Increased tractor speed, a more comfortable ride on uneven surfaces, improved front visibility, easier access to corners and precise cutting along edges.

Park is part of a new series of front-mounted ride-on mowers designed for Stiga, designed in every detail to guarantee a professional experience for any user. Delineo design has redesigned a product with a lot of history behind it, renewing it according to the new company guidelines.

www.stiga.com

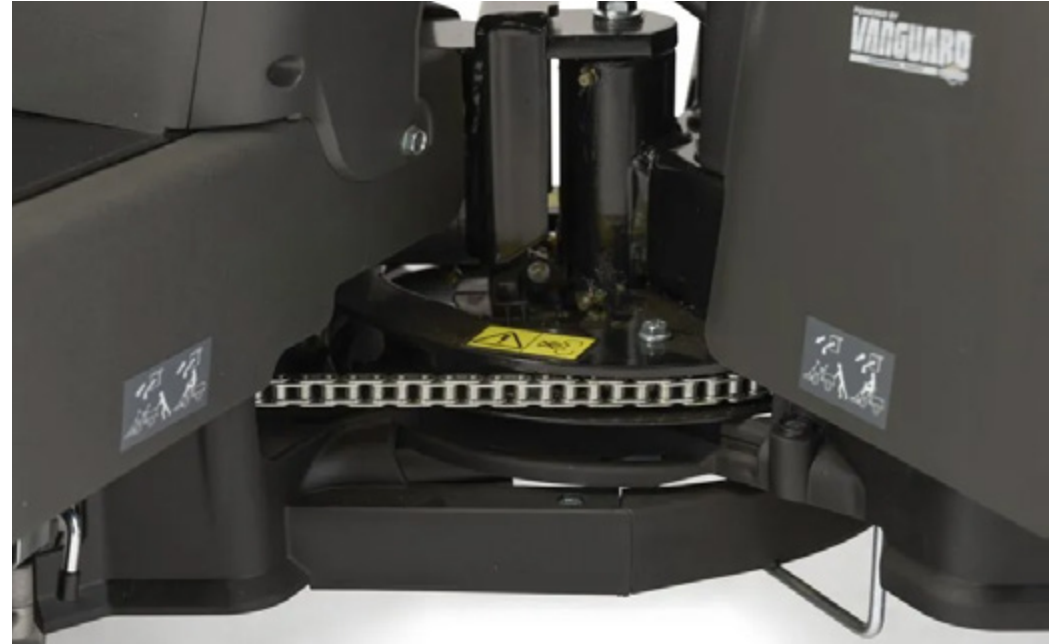




> *Powered by a 635 cc, twin-cylinder STIGA ST 650 engine, the Park 900 WX front lawn tractor is the ultimate solution in terms of power, driving ease and comfort.*



> *The front deck of the Park 900 WX allows you to set the cutting width between 95 cm and 125 cm, thus working at speed and ensuring excellent front visibility and better access to corners.*



> *The ergonomic and easily accessible side control panel includes a practical electronic height adjustment system and a spacious storage compartment.*



> *The safety of this front mower is guaranteed even in low light conditions, thanks to LED headlights that can be adjusted in width or depth.*



> *To clean the deck in seconds, simply activate the Quick Flip mechanism.*

Sprinkler Systems Market Growth Drivers

- 1. Increasing demand for water-efficient irrigation systems to support agricultural productivity. This is driven by depleting water resources and the need for sustainable agricultural practices.*
- 2. Adoption of advanced technologies such as GPS-based irrigation systems and smart sprinklers, leading to improved efficiency and cost savings for farmers.*
- 3. Government initiatives and subsidies promoting the adoption of sprinkler irrigation systems to reduce water wastage and improve crop yield.*
- 4. Growing awareness among farmers about the benefits of sprinkler irrigation in terms of reducing manual labor and effective distribution of water.*

Sprinkler Irrigation Market Opportunities

- 1. Untapped potential in emerging markets with large agricultural sectors, offering opportunities for market expansion and growth.*
- 2. Development of cost-effective and user-friendly sprinkler irrigation systems to make them more accessible to small and medium-sized farmers.*
- 3. Integration of IoT and data analytics in sprinkler systems to enable precision farming and real-time monitoring of water usage.*
- 4. Collaboration with government and non-profit organizations to educate farmers about the benefits of sprinkler irrigation and provide support for adoption.*



K-Line **Flexible pipe and sprinkler pod** **system**

production RXP, New Zealand

K-Line is a flexible and innovative pipe and rotomoulded sprinkler pod system that delivers cost effective, water efficient irrigation, effluent dispersal and dust suppression across multiple applications. K-Line is ideal for farms unsuited to centre pivot travelling irrigators, land areas of unusual shape, lifestyle blocks, sports fields, construction sites and family homes.

The system is capable of operating in almost any environment, in areas where traditional solid-set, centre pivot or travelling irrigators would struggle including land with an unusual shape or steep slope or in sites where they're not practical, such as construction zones or home gardens.

www.rxp.co.nz





> *The single pod easily connects to the regular garden hose and can be adjusted for part circle or full circle irrigation.*



> *Dust suppression pod is easily identifiable with its bright orange colour. The pods are preassembled in the dust suppression pack.*



> *The K-Line tall crops attachment uses a 1m riser with a Nelson sprinkler for irrigating tall crops. It has an easy twist lock system for easily detaching the riser.*

Designing a New Urban Landscape

In the next years, social connections in cities and villages will be built around street furniture. Street furniture also greatly contributes to the well-being of citizens in a city. Trends are changing and developing to offer decision-makers products that are more adapted to the new usage requirements.

In addition to being robust and comfortable, benches must offer a new approach to more design-focused street seating, suitable for a variety of uses. This creates street furniture that is not only original, but piques citizens' curiosity. It even becomes a new and colourful experience.

Flower boxes are designed to help improve the living space, while perfectly fitting in with the environment. They must also be designed to respect plant physiology and facilitate the work of maintenance staff.

New Trends in Urban Furniture

Innovative designs

Urban furniture plays a key role in shaping the image and opinion we have of a city or village.

Residents or visitors of a city enjoy being able to walk through spaces that are clean, inviting, and safe to travel through. Street furniture therefore plays a key role in meeting all these requirements.

In addition, users particularly enjoy high-quality urban furniture: it must be robust and in good condition in order to convey a positive image. The design is therefore increasingly important to offer street furniture with harmonious lines that can be permanently integrated in the environment.

Changing use

The very use of street furniture is becoming increasingly diverse. The primary function must always be taken into account. But increasingly, street furniture will have additional functions for users.

Benches are designed as social platforms, to allow users to take a break, rest, wait, watch, or simply meet other people.



GiraGlob

A new concept of urban furniture

design Lgop, New Zealand
production GiraGlob, New Zealand
moulding Galloway, New Zealand

The GiraGlob is a semi-enclosed, multifunctional, spherical shelter featuring a 360-degree turning mechanism. The GiraGlob is rotationally molded in high-density copolymer (HDPE) in 3 design units. It is then bespoke assembled & finished.

Openings for windows, vents, solar panels, & light fittings are cut out of GiraGlob Shell. The GiraGlob's internal turning mechanism is specifically engineered to turn slowly without gaining momentum & speed. It is rotatable by either turning the dial in the center of GiraGlob Table or pushing GiraGlob Shell from the outside. GiraGlob Bench-Seat sits 8 people comfortably.

GiraGlob is flexible for numerous social needs. The 3 design units of the GiraGlob allow a multitude of options, depending on how they are assembled are ideal for creating customized GiraGlobs.

Building on Joseph Beuys's concept, GiraGlob aims to initiate interconnected, compassionate, & thoughtful global communities through a hybrid of art and design. Stand-alone or in groupings GiraGlobs create accessible, safe, free, informal and engaging social spaces to meet, share and connect.

www.giraglobe.co.nz





> *The structure is entirely rotomoulded while the outer shell is decorated with a series of graphics applied to the surface.*



> *With the GiraGlob's ability to be turned 360 degrees to face any direction, visitors may engage with each other and enjoy attractions from the comfort of their own viewing platform.*



> *Taking shelter and being given the ability to turn away from wind, rain, or sunshine while still staying connected with the environment and people outside, is a totally new experience.*

credits

Same Deutz-Fahr, *Italy*

Magis, *Italy*

SRI, *France*

Lineabeta, *Italy*

Ropopac, *San Marino*

Onder, *France*

Ariel Motor, *Great Britain*

Innovo, *USA*

Stiga, *Italy*

RXP, *New Zealand*

GiraGlob, *New Zealand*

Cover Pictures

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Projects

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SJB-Institute of Technology, *India*

Seoul University, *South Korea*

Concept

Studio Giovanetti, *Italy*

affiliates



AFR - Association
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ARM - Association of
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ARMA - Association of
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ANIPAC - The Mexican Plastic
Association



ARMSA - Association of Rotational
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